Demystifying “Environmental Sustainability”

by Norman Wei

There has been much talk over the past few years about environmental sustainability. Everyone is talking about it. Conferences are held on environmental sustainability. There are hundreds of definitions of sustainability and yet no one seems to understand what it really means. So-called experts are coming up with “metrics” and “indices” as new ways to measure sustainability and none has universal acceptance.

Sustainability is the new environmental buzzword of this decade.

According to EPA, sustainability is based on a simple principle: “Sustainability creates and maintains the conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations”.

What this definition says is that as we make our products, we should make sure that there is as little net negative impact on the environment as possible. A good example to illustrate this concept is to look at our savings account in the bank. If we have $1000 in the bank and its pays 3% interest a year, the sustainable way to manage this bank account would be to spend no more than $30 a year. This will preserve the principal. On the other hand, if we were to draw down the principal amount by spending more than $30 a year, we would deplete the account over time and there would be nothing left for our children. It would not be a sustainable practice.

Think of nature as one gigantic bank account. As we make our products, we need to make sure that the rate at which we take something away from nature is no faster than nature’s own rejuvenation rate. For example, if we discharge too much pollutants to a river, the river may not be able to assimilate the pollutants in time and the net results would be a depletion of dissolved oxygen in the water followed by fish kill. The river in this example is not being sustained and the practice of discharging pollutants into this river is not sustainable.

This concept of “sustainability” is not new at all. Regulatory agencies’ permitting programs have been taking sustainability into account for years. In Stephen Myers’ article on Environmental Risk Management, he refers to environmental risk mitigation plans that reduce uncertainty and risk by generally following an “eliminate, manage or transfer” hierarchy.

This is exactly what a permit writer does.

In fact, the entire premise behind permitting is sustainability. The amount of pollutant you are allowed to discharge into a stream under a permit is entirely dependent on the assimilative capacity of that stream. Your permit conditions demand that. If there are too many sources of pollution going into a particular water body that is under stress, the Clean Water Act requires that a waste load allocation scheme be set up to regulate how many sources can discharge how much pollutants into that body of water. In other words, you either eliminate it, manage it or transfer it.

The Clean Water Act of 1972 also requires the governor of each state to develop water quality standards that are designed to protect existing designated beneficial uses and prevent degradation of the nation’s navigable waters. That is sustainability in its purest form!

On the air side, if we wish to build a new power plant in a non-attainment area (i.e. where the National Ambient Air Quality Standards are not being met at the time), the agency will require us to “offset” our new pollutant by removing more than the new amount from an existing source under the Clean Air Act’s New Source Review Program. For example, if we wish to emit 1000 tons of new soot into the atmosphere in Los Angeles, we would have to either purchase an existing plant that is currently emitting 1500 tons of soot and shut it down or purchase emission credit in the open market. That’s the Clean Air Act’s way of ensuring sustainability. You must remove from the existing inventory more pollutants than what you are planning to emit.

If we plan to build our new power plant in a city where the air is clean (an attainment area), we would have to get a PSD (Prevention of Significant Deterioration) permit from EPA to demonstrate that our new power plant will not jeopardize the attainment status under the Clean Air Act. We will have to put in the most advanced pollution control equipment to do that and demonstrate through computer modeling that the new plant would not cause the area to be re-classified as non-attainment. That’s another example of sustainability.

The above examples also illustrate the two main pillars of environmental sustainability, namely, “waste minimization” and “pollution prevention”. These concepts have been around for years as well! Every manager knows that if he can find a way to make his products by generating less wastes and causing less pollution, he will save money in the long run.

The BP oil spill in 2010 was a classic failure in pollution prevention on a massive scale. If the oil industry had spent a fraction of the billions of dollars it spent in perfecting deep sea drilling technology on pollution prevention, that oil spill might not have happened. And it was not an “enterprise ending event” as suggested in Myers’ article. BP will survive.

Years ago, the canning industry converted from making three-piece cans with lead soldered side seams to making two-piece cans with water-based sealing compound for the same sustainability reasons. The water-based sealing compounds generates no hazardous wastes and the whole process causes a lot less pollution and less environmental health risks to consumers. That was done many years ago.

If you are doing a decent job in waste minimization and pollution prevention, you are well on your way to environmental sustainability. You don’t need any fancy three-dimensional charts or metrics to tell you that. Nor do you need a Sustainability Officer to tell you that either.

So the next time someone asks if you are practicing “environmental sustainability”, tell him about what you are doing in waste minimization and pollution prevention and how you are meeting your permit conditions.

Or ask him: What else is new?

About the author: Norman Wei is a environmental consultant with over 35 years of experience as a corporate manager and consultant. His company - Environmental Management and Training, LLC. - provides compliance training seminars throughout the country. His seminar schedule can be found at www.proactenv.com.